



**IMPACT OF EMOTION MANAGEMENT ON OPERATIONAL EFFECTIVENESS**

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## **RESUMEN**

El impacto de la inteligencia emocional sobre la efectividad operativa es un estudio poco explorado. Diferentes autores reconocen que la inteligencia emocional (I.E.) tiene una influencia en las relaciones humanas desde ámbitos personales y laborales, por ello, con un enfoque en las organizaciones se puede afirmar que existe un vínculo entre trabajadores y clientes, a causa de ello, es importante hacer un buen manejo de la I.E. por medio de las relaciones y estrategias para obtener mejores resultados en estas. Basándose en la información recolectada de 511 encuestas y usando un modelo de ecuaciones estructurales, se halló que no hay influencia de la inteligencia emocional sobre la aceptación de las estrategias, sin embargo, se observa que, si es un factor relevante en redes y vínculos, y la efectividad operativa.

## **PALABRAS CLAVES**

Inteligencia emocional, redes y vínculos, efectividad operativa, reconocimiento de las emociones propias y uso de las emociones en otros.

## **ABSTRACT**

The impact of emotional intelligence on operational effectiveness is an unexplored study. Different authors recognize that emotional intelligence (EI) has an influence on human relationships from personal and work areas, therefore, with a focus on organizations, it can be said that there is a link between workers and clients, because of this, it is important to have good management of EI through relationships and strategies to obtain better results in these. Based on the information collected from 511 surveys and using a model of structural equations, it was found that there is no influence of emotional intelligence on the acceptance of the strategies,

however, it is observed that it is a relevant factor in networks, links and operational effectiveness.

## **KEY WORDS**

Emotional intelligence, linkages, operational effectiveness, UOE (Use of emotions) and SEA (Self emotional appraisal).

## **INTRODUCTION**

This document is an extended version of the paper "Exploring the relationship between emotional intelligence, strategies and linkages and operational effectiveness" presented for the EUROMA 2019 conference. In the first place, it is necessary to define that companies currently reside in a globalized and competitive world, for they are increasingly connected through their workers, customers and suppliers, and it is vital to acquire a differentiating factor that increases competitiveness. Following this reasoning, in order to increase competitiveness, emphasis can be placed on the operational effectiveness of the companies, which together with the strategies, direct limited resources of the companies to increase their performance. Similarly, the strengthening of links and networks allow to create a synergy within the company with its workers and administrative staff, and outside with customers, suppliers and collaborators; that allow to determine the sustainability of this and to enhance the processes and effectiveness.

Given the above, emotional intelligence plays an important role in terms of operational effectiveness and organizational climate. Research has found a direct relationship between emotional intelligence and workers' performance (Carmeli & Josman, 2006), making an allusion to the above, there is a relationship between the increase or decrease in operational effectiveness and the yields or profit margin of

the companies. For this reason and in order to be more efficient and competitive, employers have taken into account different aspects and elements that increase the efficiency of their workers, one of them, as mentioned in advance is emotional intelligence, because with it they manage to employees individually increase the performance of their tasks and also harmonize the work environment naturally. Some authors hope that people with a higher level of emotional intelligence achieve greater achievements both in the workplace and in their personal lives, and that they contribute significantly to the performance of their organization (Carmeli & Josman, 2006).

This project will focus on two specific dimensions of emotional intelligence, first the emotional self-assessment that deals with *"the individual's ability to understand their deepest emotions and their ability to express them in a natural way"*. Second, the use of emotions in others, understood as *"the ability of people to use their emotions to channel them to constructive activities and their personal performance"* (Wong & Law, 2002).

## **EMOTIONAL INTELLIGENCE**

Thorndike's theory states that emotional intelligence is based on social intelligence, which is the ability to understand others and human relationships. (Thorndike, 1920). On the other hand, Boyatzis defines emotional intelligence as the ability related to human behaviour, which aims to manifest empathy, either to understand people or gain prestige through influence. Analogously, social intelligence recognizes and uses (emotional) information to influence others and achieve effective performance (Mayer & Geher, 1996).

Previously, the authors Salovey and Mayer modelled their theory in three mental processes: the assessment and expression of one's own emotions and those

of others; the regulation of one's own emotions and those of others; and the use of emotions. As a result of this thought and the subsequent development of it, one of the definitions expresses that emotional intelligence promotes the knowledge and understanding of the information of the individual and his environment (Boyatzis, 2008). The more individuals are exposed to social interactions, the more their emotional intelligence will grow. KEMPER 1978 (Kemper TD-1978- A Social Interaction Theory of Emotions, Wiley, New York).

This approach can be corroborated with the study conducted by Peter Salovey and Daisy Grewal in 2005, with the help of the MSCEIT scale they can demonstrate that those people with greater emotional intelligence understand their environment better and stand out both personally and in the professional (Salovey & Grewal, 2005).

For Wong and Law, the relationship between emotional intelligence and work performance is of the utmost importance, which is why they gather information from the theory of Salovey and Mayer, from which they construct four specific dimensions (Wong & Law, 2002):

- Self emotional appraisal (SEA) is the ability of the individual to understand and express their own emotions.
- Other emotional appraisal (OEA) is the ability to perceive and understand the emotions of others.
- Use of emotions (UOE) this is the ability that an individual can use the emotions of others in favor of constructive activities and personal performance.

- Regulation of emotions (ROE) obeys the ability of individuals to self-regulate their own emotions.

In the same way, these concepts can be transferred to the work environment from the perspective of job satisfaction, relating regulation and the use of emotions. From this perspective, emotions become the mediator between EI and the commitment towards the organization, reflecting on better behaviour and results. Therefore, if a team member enjoys a high level of EI, it will have a significant impact on the team's effectiveness (Othman et al., 2007). At the same time, leaders with a high level of emotional intelligence recognize emotions and are able to use this information to influence workers (George, 2000). This is a clear explanation of why managers must recognize their emotions and those of their workers to maintain the emotional climate at work and spread respect towards others. Even other theories, support how the work climate can be affected by how the leader manages or guides the team's emotions.

Additionally, it must be recognized that the employees who experience negative feelings it is difficult to obtain an effective performance, given that, they need a prudential time to relegate these feelings, and adopt positive feelings to have a greater influence on the creativity and innovation for their work, than it translates into greater performance (Amabile, Barsade, Mueller, & Staw, nd). EI can be a tool to help employees with negative feelings if the factors that generate them come from the employees themselves, such as the lack of skills necessary to successfully complete the assigned tasks (Othman et al., 2007), since the negative feelings would not be an obstacle, but a catalyst to be able to advance to the desired results.

However, it can be generated that an individual effectively recognizes his emotion but cannot control it. For these cases, the use of emotions plays an important role in organizations (Adams & Webster, 2013).

## **LINKAGES**

Linkages are one of the most relevant elements for humans and companies, because it can be a tool to improve the personal and organizational performance. Companies with good management in the links increase productivity and create virtuous circles in the economy; however with mismanagement it creates vicious circles between companies, workers and consumers (Cicccone A. (2008).

Cicccone said that it's important to consider the vertical and horizontal links of companies to improve their productivity. The links are a way for firms to exchange resources, skills and knowledge, which is why they are vital to develop an effective strategy that improves the performance of the company. On the other hand, the links have a strong relationship with the quality of the service's, the quality of the system's and the performance which is fundamental to the operative effectiveness (Coo and Verma, 2002).

The links and networks also depend on the function of the company and the context in which it develops. Hence Madill, Haines and Rididng (2004) discovered that in Ottawa some technology-based companies are less linked than non-technological companies and the links are more important in a firm based on knowledge. This event could be explained because the most technological companies can communicate by electronic means but this does not allow them to clearly identify the message or the emotions that accompany them.

Companies can transfer innovation through the links. However, only some companies show interest in creating networks with universities or science institutions, with which they can achieve innovations in products and processes (Cassiman, Veugelers, & Zuniga, 2010). On the other hand, it has also been proven that the links that companies have, have an influence on a transparency market (Newell, 2008).

## **STRATEGIES**

Faced with the dynamism of the market and the uncertainties that this produces for companies, the strategies serve to leverage and obtain a competitive advantage, in other words, it is important to change as the market does and use the strategies that generate the best compensation (Sirmon, Hitt, & Ireland, 2007).

Well-crafted strategies allow companies to effectively develop their key competitive capabilities (quality, delivery, flexibility and cost efficiency) and improve their competitiveness in the market (Dangayach & Laosirihongthong, 2012). For the companies to implement strategies that recombine the efficient use of resources in a way that is difficult to imitate, it has a great post-impact impact, they can even obtain better results in this way than acquiring new investors or resources (Morrow, Sirmon, Hitt, & Holcomb, 2007).

Following the previous premises, the strategies play a relevant role against any eventuality and create a difference for firms in the market (Hendela, Turoff, Hiltz, & Fjermestad, 2017). On the other hand, the effective use of emotional intelligence allows the leader to use his power of transformation to promote the strategies defined by management and, therefore, achieve the objectives of the organization (Kilduff, M., Chiaburu, DS and Menges, JI 2010, 2010; Leban and Zulauf, 2004).

## **OPERATIONAL EFFECTIVENESS**

Operational effectiveness is a key factor in any organization to establish processes that exceed customer expectations (Santa, Hyland, & Ferrer, 2014). Nowadays, organizations trying to survive in the market discover which markets and environment change constantly and competition is fierce these conditions are threats and affect performance of organizations give solution at those difficulties by improving internal processes, making them more efficient and thus reducing operational costs (Belton, 2017; Helfat and Martin, 2014; Lin H.-F., Su, J.-Q. and Higgins, A., 2016; Pisano, 2017; Prajogo D.I., Toy, J., Bhattacharya, A., Oke, A. and Cheng, T.C.E., 2018; Teece D., Pisano, G. and Shuen, A., 1997) exist two common strategies who organizations have employed to obtain sustainable competitive advantage: Cost leadership and Differentiation (Dess and Davis, 1984; Huang K.-F., Dyerson, R., Wu, L.-Y. and Harindranath, G., 2015; Porter, 2004). Between the cost leadership strategies is find OE, because that it has influence the organization's performance which has significant impact on competitiveness. Thus, firms need to focus on the dimensions: speed, flexibility, reliability, cost, and quality (Hill, 2005; Santa et al., 2014; Singh, R.K., Clements, E.J. and Sonwaney, V., 2018).

Operational effectiveness corresponds to the ability to establish processes, based on core capabilities inside the organizations, which stimulate them to improve customer's expectations (Santa et al., 2013). On the other hand, Porter define OE as carry out activities different and better than competitors. This definition includes efficiency, but it is not limited to it. Any activity that allows the firm to be more efficient or better than their competitors can be classified as improving OE (Porter, 1996; Porter, 2013). Tuturea and Rotaru (2012) argument that firm's performance are based on its strategy and operational effectiveness, as both dimensions are necessary to improve performance and gain competitive advantage over

competitors. Thus, it is argued that although operational effectiveness can be the key to the competitiveness of companies, this will only be possible if companies operate better and faster than the competition (Bigelow, 2002). In this vein, organizational success have directament relationship on OE, which allows the firm to act better and faster than their competitors and offer value-adding services or products, that satisfy customers' expectations (Namnai et al., 2015; Porter, 1996; Teece et al., 2016). Otherwise, organizations can fall into a fight for market, thus losing any possibility of competitive advantage (Tutorea et al., 2012). According, Wheelwright and Bowen, (1996), highlight in some of the objectives and being competitive in each of the others, gives an organization an edge in the market.

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Also exist other difficulty when benefits are not exclusively quantitative, however also qualitative (Brigham and Ehrhardt, 2017; Ehrhardt and Brigham, 2015; Gomes C.F., Yasin, M.M. and Lisboa, J.V., 2007; Gomes C.F., Yasin, M.M. and Lisboa, J.V., 2008) an start to solution this problem is differentiate the primary and supporting activities of the organization at any point of the production or service process for both internal and external customers. Also the organization should add value at their process or value chain, in based with their goals, needs, and objectives (Jansen et al., 2006; Najafi-Tavani et al., 2018; Rosenbusch et al., 2011).

Operational effectiveness is usually gain by labor in various factors like Flexibility, Quality, speed, costs. Flexibility is a primary factor in organizations,

because is contemplated with a central capability no matter that type of organization to be (Slack, N., Stuart, C., Johnston, R. and Betts, A., 2006)

Quality has many objectives with satisfying customers' requirements and offering products they need, other facet is production with zero defect, and this impacts heavily on cost performance (Love, C.E., Guo, R. and Irwin, K.H., 1995). Quality also are service personnel, service facilities and location, service methods, post-sale service, service consistency, response attitude, repair quality and any activities that increase customer satisfaction (Yang, 2011).

Speed in operational effectiveness is define like the answer time of the organization in case of any changes in customers' requirements or market changes, these require fast answers from the organization in area delivering new products, services and process (Phillips and Jeong, 2001; Tidd et al., 2009).

Cost performance is focus in being efficient, aligning, organizing processes to provoke the more minimum of waste in organizational 'activities internal and external (Russell and Taylor, 2008). Cost performance is form reaching the organizational goals at the lowest price (Bisbe and Otley, 2004) optimize these factors, implies identifying and recognizing the organization's current situation, but also make sure the achievement of operational effectiveness in organization, thus permitted adaptability of organization to changes in the market environment, and becoming more competitive in the market (Santa et al., 2013).

## **RESEARCH MODEL AND HYPOTHESES**

From the perspective of work satisfaction, emotions become the mediator between emotional intelligence and commitment to the organization. Such commitment is reflected in better behavior and performance. Therefore, a team member with a high level of emotional intelligence will have a significant impact on

the team's effectiveness (Othman et al., 2008). Furthermore, a team leader with a high level of emotional intelligence recognizes emotions and is able to use this information to influence team members (Amabile et al., 2005; George, 2000; Liu and Liu, 2013). Therefore, we propose the following hypotheses:

**H1a:** There is a direct impact of SEA on Linkages.

**H1b:** There is a direct impact of SEA on Strategies.

**H1c:** There is a direct impact of UOE on Linkages.

**H1d:** There is a direct impact UOE on Strategies.

**H2a:** There is a direct impact of SEA on OE.

**H2b:** There is a direct impact of UOE on OE.

Strategies define how to reach expected goals and are therefore vital to OE (Papke-Shields and Malhotra, 2001). Linkages facilitate the exchange of knowledge and resources and have a strong impact on the quality of the service, the quality of the system and performance, which are fundamental aspects of OE (Coo and Verma, 2002). In view of these aspects, we propose the following hypotheses:

**H3:** There is a direct impact of Strategies on Linkages .

**H4:** There is a direct impact of Strategies on OE.

**H5:** There is a direct impact of Linkages on OE.

Appraisal and expression of emotion in the self (SEA) refers to the ability to identify, know and understand one's own emotions and their effect on other individuals. To know oneself allows one to influence others through the use of

emotions (UOE) and enhance performance and facilitate the accomplishments of predefined goals (Wong and Law, 2002). Therefore, the following hypothesis is proposed:

**H6:** SEA is positively related to UOE

The resulting hypothesized model is shown in figure 1.

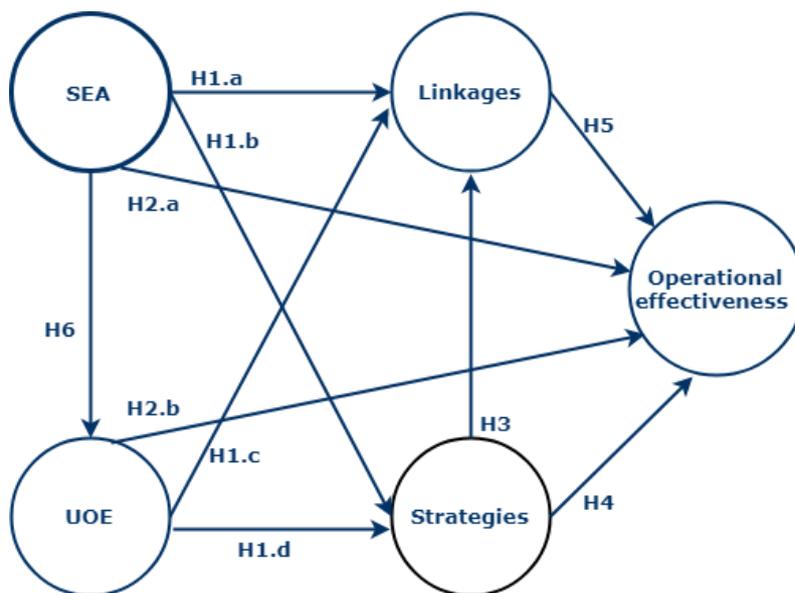


Figure 1. Hypothesis model

## RESEARCH METHOD

This confirmatory-correlational research aims to determine the relationship between the different variables and explain and quantify the different observable facts. Accordingly, following Hair et al (2010) and Tabachnick & Fidell's (2019) recommendations:- a survey instrument, measurement constructs and best model-fit were developed and applied. A self-administered survey questionnaire was designed, starting with a demographic section (industrial sector, size of the company, education area, and work area) followed by a conceptualized set of variables (Strategy, Linkages, Emotional Intelligence, and OE) to build a model that

was tested using both descriptive and inferential statistical analysis once the data was collected. The model's variables were rated with the use of a 5-point Likert-style scale (Strongly Agree–Strongly Disagree). 150 usable questionnaires were collected. The average mean values of the statements' ratings were used to generate the structural equation model. This methodology was chosen as it fits the requirements of this research and allows the analysis of latent variables and their relationship and the required sample is met by the collected data (Nachtigall et al., 2003).

Confirmatory factor analysis (CFA) was used to determine the relationships between observed and continuous latent variables and to check and confirm the overall model fit (Cooksey, 2007; Hair et al., 2010; Tabachnick and Fidell, 2019). Factor loadings were estimated, items loaded on only one construct (i.e., no cross loading) and latent constructs were correlated (equivalent to the oblique rotation in exploratory factor analysis). The internal consistency was confirmed using Cronbach's alpha coefficient and the items-to-total correlation. All constructs yielded alpha values greater than 0.7, which is the cut-off level set for basic research (Nunally and Bernstein, 1978).

## **RESULTS**

Based on the proposed model the results (see Figure 1 and 2, and Table 1) that were generated were with respect to each one of the hypotheses proposed, that the H1a establishes a significant relationship between SEA and Strategies indicating the influence generated by the ability to evaluate one's emotions when deciding on an innovative strategy. Understand clearly emotions and express them appropriately will allow individuals with higher SEA a better formulation, understanding and application of the strategy, than individuals with lower SEA. Other relationships that

was raised was the impact of SEA in the Linkages expressed in H1b, it shows significant, affirming that express the emotions appropriately allows building a relationship with suppliers, customers, partners and other employees of the company. Regarding to H6 that corresponds to the type of correlation that exists between SEA and UOE, a direct relationship was determined, confirming the EI theory (Wong and Law, 2002) that emphasizes the ability of individuals to understand their emotions, influencing the use of these for a better performance. The last hypothesis that arises from SEA, H2a, is its impact on OE, which is not significant indicating that there is no influence of SEA on OE, therefore, it is rejected.

On the other hand, the impact of UOE with respect to Strategies and Linkages was also analyzed, this relationship is not significant, generating that H1c and H1d are rejected, which can be interpreted as the use of emotions does not have a direct impact on the links that can be established, demonstrating that factors such as communication between workers, customers, suppliers or partners is impersonal, since the relationships that are being worked on today are mainly constituted via mail or any type of electronic means. However, the analysis of the impact of UOE on OE is significant, which represents that the ability of the individual to use their own emotions to achieve a better performance is reflected in the development of the company's processes making it effective in their operations. The greater the UOE of the individuals, the greater the operational effectiveness, being a direct relationship.

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**Table 1, Regression Weights: (Group number 1- Default model)**

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|            |       | Estimate | S,E   | C,R   | P   | Label              |
|------------|-------|----------|-------|-------|-----|--------------------|
| UOE        | ← SEA | 0,819    | 0,168 | 4.887 | *** | Highly Significant |
| Strategies | ← SEA | 0,585    | 0,467 | 1.252 | *** | Highly Significant |

|            |              |        |       |        |       |                       |
|------------|--------------|--------|-------|--------|-------|-----------------------|
| Strategies | ← UOE        | -0,254 | 0,459 | -0,554 | 0,580 | NS                    |
| Linkages   | ← Strategies | 0,456  | 0,109 | 4.170  | ***   | Highly Significant    |
| Linkages   | ← SEA        | 0,334  | 0,284 | 1.175  | ***   | Highly Significant    |
| Linkages   | ← UOE        | -0,183 | 0,272 | -0,674 | 0,500 | NS                    |
| OE         | ← SEA        | -0,021 | 0,242 | -0,089 | 0,929 | NS                    |
| OE         | ← UOE        | 0,529  | 0,245 | 2.164  | ***   | Highly Significant    |
| OE         | ← Strategies | 0,261  | 0,095 | 2.738  | 0,006 | Partially Significant |
| OE         | ← Linkages   | 0,365  | 0,151 | 2.411  | ***   | Highly Significant    |

Finally, the impact of strategies on Linkages is positive and direct, which leads to confirm H3. Which means, that the strategies that are carried out have an effect on the links and networks that are treated. On the other side, the strategies present a direct relation of lesser impact on the operative effectiveness, causing that H4 is partially significant. This point can represent an opportunity for improvement at the moment of creating or communicating strategies, giving a clearer and more concise information so that it is reflected in the operative effectiveness. Finally, the impact of Linkages on OE is significant, confirming H5, that implies that the relationships, the links and the networks are manifested in operational effectiveness directly.

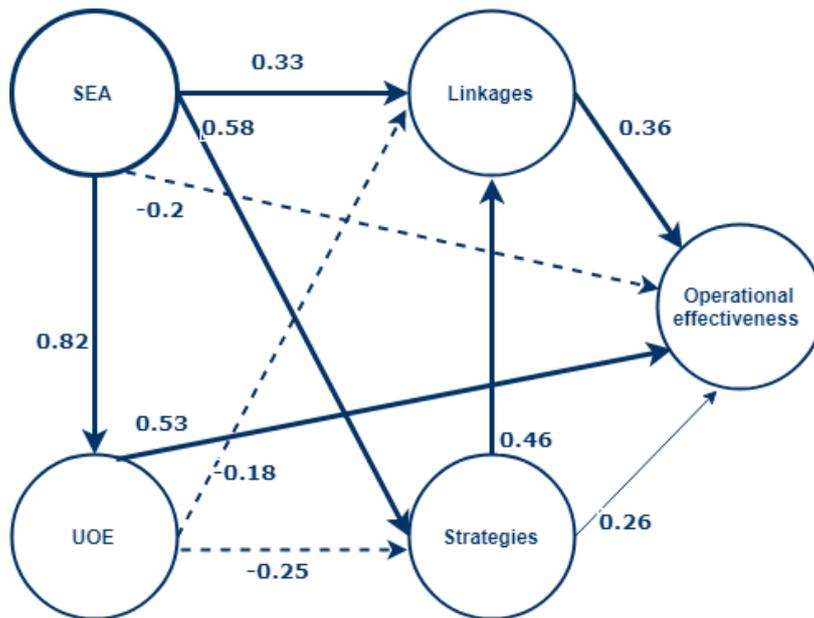


Figure 2. Results Model

- \*\*\* Highly significance ———
- \*\* Partial significance ———
- \*Low significance - - - - -

**CONCLUSION**

The present study shams the importance of emotional intelligence in strategies, linkages and operational effectiveness. The results discover in this study suggested that there is a disruption between what the organizations strategically planned for innovation and operational effectiveness and the emotional intelligence of the employees of organizations motive of study.

Additionally, this result shows a lack of appropriate introduction of innovative initiatives as explained by Tidd et al (2013), this gap possibly is explained for corresponding lack of appropriate dissemination of strategy intro of organizations, this can consequence of organization’s culture in Colombia, in these is common that exist strategies not communicational of the leaders in direction at subordinates and

this affect operation effectiveness of organizations, so employees do not have the opportunity to assimilate them and work towards the achievement of the strategic plans.

Thus organizations should improve their forms transmission of strategies intro of organizations, exist an indirect impact of strategies on operational effectiveness across the linkages, partially confirming H3, signify that the studied organizations need to improve form that their strategic formulation.

Also, another relevant finding is related to the fact that there is a gap in the communication channels between the individuals in the organizations and the suppliers and customers, because of the increased use of technologies. Thus, it is necessary to improve the communication paths so individuals can interact with peers without needing to interpret the others' emotional intelligence.

On the other hand, it is important to note the strong relationship between the use of emotions and operational effectiveness. The present study demonstrated that individuals are paying attention to the role of key performance drivers such as cost, quality, reliability, flexibility, and speed. Thus, organizations need to dedicate adequate training and dissemination of the strategic role of operational effectiveness to achieve a sustainable competitive advantage in markets.

Future studies could further research the relationship between strategies and innovative initiatives such as products or services, paradigm, position and process innovation, and operational effectiveness. Decomposing operational effectiveness into specific performance objectives such as cost, quality, reliability, flexibility, and speed could be the key to better understanding how emotional intelligence and operational strategies can interact effectively. A closer look at such interactions

would certainly contribute to the sustainable performance of the organization by achieving operational effectiveness. By gaining such understanding, strategic management would benefit from a more comprehensive insight into performance determinants.

## REFERENCES

- Adams, G. A., & Webster, J. R. (2013). Emotional regulation as a mediator between interpersonal mistreatment and distress, *0643*.  
<https://doi.org/10.1080/1359432X.2012.698057>
- Amabile, T.M., Barsade, S.G., Mueller, J.S. and Staw, B.M. (2005) 'Affect and Creativity at Work', *Administrative Science Quarterly*, Vol 50, No. 3, pp 367-403.
- Belton, P. (2017) *Competitive Strategy*, Macat Library, London.
- Bisbe, J. and Otley, D. (2004) 'The effects of the interactive use of management control systems on product innovation', *Accounting, Organizations and Society*, Vol 29, No. 8, pp 709-737.
- Boyatzis, R. E. (1982) *The Competent Manager: A Model for Effective Performance*, A Wiley-Interscience publication, Wiley.
- (2008). Competencies in the 21st century. *Journal of Management Development*, 27, 12. <https://doi.org/10.1108/02621710810840730>
- Bowen, D.E., Chase, R.B. and Cummings, T.G. (1990) *Service management effectiveness: Balancing strategy, organization and human resources, operations, and marketing*, Service management effectiveness: Balancing strategy, organization and human resources, operations, and marketing., Jossey-Bass, San Francisco, CA, US.
- Brigham, E.F. and Ehrhardt, M.C. (2017) *Financial management : theory & practice*, 15e. edn, Cengage Learning, Australia ; Boston, MA.
- Carmeli, A., & Josman, Z. E. (2006). The relationship among emotional intelligence, task performance, and organizational citizenship behaviors. *Human Performance*, 19, 403–419. [https://doi.org/10.1207/s15327043hup1904\\_5](https://doi.org/10.1207/s15327043hup1904_5)
- Caruso, D. R., Mayer, J. D., & Salovey, P. (2002). Emotional intelligence and emotional leadership. In *Multiple intelligences and leadership*. (pp. 55–74). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Cassiman, B., Veugelers, R., & Zuniga, P. (2010). [www.econstor.eu](http://www.econstor.eu). *The Open-Access, Open-Assessment E-Journal*, 4(2010–33), 1–26.  
<https://doi.org/10.5018/economics-ejournal.ja.2010-33>.http
- Cicccone A. (2008) Linkages. In: Durlauf S.N., Blume L.E. (eds) *The New Palgrave Dictionary of Economics*. Palgrave Macmillan, London DOI [https://nebulosa.icesi.edu.co:2144/10.1007/978-1-349-58802-2\\_973](https://nebulosa.icesi.edu.co:2144/10.1007/978-1-349-58802-2_973)

- Coo, L.S. and Verma, R. (2002) 'Exploring the Linkages between Quality System, Service Quality, and Performance Excellence: Service Providers' Perspectives', *Quality Management Journal*, Vol 9, No. 2, pp 44-56.
- Cooksey, R.W. (2007) *Illustrating Statistical Procedures: For Business, Behavioural & Social Science Research*, Tilde University Press, Prahran VIC 3181, Australia.
- Ehrhardt, M.C. and Brigham, E.F. (2015) *Corporate finance : a focused approach*, 6e, sixth edition. edn, Cengage Learning, Boston, MA.
- Dangayach, G. S., & Laosirihongthong, T. (2012). Special issue on Diffusion of operation strategy and tactics to emerging economy countries. *Production Planning and Control*, 23(10–11), 719–721.  
<https://doi.org/10.1080/09537287.2011.642132>
- Dess, G. and Davis, P.S. (1984) 'Porter's Generic Strategies as Determinants of Strategic Group Membership and Organizational Performance ', *Academy of Management Journal*, Vol 27, No. 3, pp 467-488.
- George, J.M. (2000) 'Emotions and Leadership: The Role of Emotional Intelligence', *Human Relations*, Vol 53, No. 8, pp 1027-1055.
- Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2007) 'An assessment of the key success factors of manufacturing performance from the perspective of external decision-makers', *International Journal of Business and Systems Research*, Vol 51, No. 2, pp 148-161.
- Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2008) 'Project Management in the Context of Organizational Change: The Case of the Portuguese Public Sector', *International Journal of Public Sector Management*, Vol 21, No. 6, pp 573-585.
- Grundy, T. (2006). Rethinking and reinventing Michael Porter's five forces model.  
<https://doi.org/10.1002/jsc.764>
- Hair, J.F., Black, W.C. and Babin, B.J. (2010) *Multivariate Data Analysis: A Global Perspective*, Pearson Education, Global Edition.
- Helfat, C.E. and Martin, J.A. (2014) 'Dynamic Managerial Capabilities: Review and Assessment of Managerial Impact on Strategic Change', *Journal of Management*, Vol 41, No. 5, pp 1281-1312.
- Hendela, A., Turoff, M., Hiltz, S. R., & Fjermestad, J. (2017). A Risk Scenario for Small Businesses in Hurricane Sandy Type Disasters. *Proceedings of the 50th Hawaii International Conference on System Sciences (2017)*, 257–266.  
<https://doi.org/10.24251/hicss.2017.031>
- Hill, T. (2005) *Operations management*, Palgrave Macmillan, New York, NY.
- Huang, K.-F., Dyerson, R., Wu, L.-Y. and Harindranath, G. (2015) 'From Temporary Competitive Advantage to Sustainable Competitive Advantage', *British Journal of Management*, Vol 26, No. 4, pp 617-636.
- Intelligence, 22(2), 89–113. [https://doi.org/10.1016/S0160-2896\(96\)90011-2](https://doi.org/10.1016/S0160-2896(96)90011-2)
- Salovey, P., & Grewal, D. (2005). The Science of Emotional Intelligence. *Current Directions in Psychological Science*, 14(6), 281–285. Retrieved from <http://www.jstor.org/stable/20183048>
- Jansen, J.J.P., Van Den Bosch, F.A.J. and Volberda, H.W. (2006) 'Exploratory Innovation, Exploitative Innovation, and Performance: Effects of Organizational

- Antecedents and Environmental Moderators', *Management Science*, Vol 52, No. 11, pp 1661-1674.
- Kilduff, M., Chiaburu, D.S. and Menges, J.I. (2010) 'Strategic use of emotional intelligence in organizational settings: Exploring the dark side', *Research in Organizational Behavior*, Vol 30, No., pp 129-152.
- Leban, W. and Zulauf, C. (2004) 'Linking emotional intelligence abilities and transformational leadership styles', *Leadership & Organization Development Journal*, Vol 25, No. 7, pp 554-564.
- Lin, H.-F., Su, J.-Q. and Higgins, A. (2016) 'How dynamic capabilities affect adoption of management innovations', *Journal of Business Research*, Vol 69, No. 2, pp 862-876.
- Love, C.E., Guo, R. and Irwin, K.H. (1995) 'Acceptable quality level versus zero-defects: some empirical evidence', *Computers & Operations Research*, Vol 22, No. 4, pp 403-417.
- Liu, X.Y. and Liu, J. (2013) 'Effects of team leader emotional intelligence and team emotional climate on team member job satisfaction: A cross-level', *Nankai Business Review International*, Vol 4, No. 3, pp 180-198.
- Madill, J. J., Haines, G. H., & Riding, A. L. (2004). Networks and linkages among firms and organizations in the Ottawa-region technology cluster. *Entrepreneurship and Regional Development*, 16(5), 351–368. <https://doi.org/10.1080/0898562042000188414>
- Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. *Intelligence*, 22(2), 89–113. [https://doi.org/10.1016/S0160-2896\(96\)90011-2](https://doi.org/10.1016/S0160-2896(96)90011-2)
- Morrow, J. L., Sirmon, D. G., Hitt, M. A., & Holcomb, T. R. (2007). Creating value in the face of declining performance: Firm strategies and organizational recovery. *Strategic Management Journal*, 28(3), 271–283. <https://doi.org/10.1002/smj.579>
- Nachtigall, C., Kroehne, U., Funke, F. and Steyer, R. (2003) *(Why) Should we use SEM?—Pros and cons of Structural Equation Modelling*, vol. 8.
- Najafi-Tavani, S., Najafi-Tavani, Z., Naudé, P., Oghazi, P. and Zeynaloo, E. (2018) 'How collaborative innovation networks affect new product performance: Product innovation capability, process innovation capability, and absorptive capacity', *Industrial Marketing Management*, Vol 73, No., pp 193-205.
- Namnai, K., Ussahawanitchakit, P. and Janjarasjit, S. (2015) *Modern cost Management innovation and performance: A conceptual model*, 7, Jordan Whitney Enterprises, Inc.
- Newell, G. (2008). Assessing the linkages between economic competitiveness and property market transparency. *Pacific Rim Property Research Journal*, 14(3), 322–333. <https://doi.org/10.1080/14445921.2008.11104261>
- Nunally, J.C. and Bernstein, I.H. (1978) *Psychometric theory*, McGraw-Hill, New York.
- Operations management / Terry Hill. - Version details - Trove. (n.d.). *Operations Management*. Retrieved from <https://trove.nla.gov.au/work/7363582?q&versionId=8473738>

- Othman, A. K., Abdullah, H. S., & Ahmad, J. (2007). The Influence of Work Motivation on Emotional Intelligence and Team Effectiveness.
- Papke-Shields, K.E. and Malhotra, M.K. (2001) 'Assessing the impact of the manufacturing executive's role on business performance through strategic alignment', *Journal of Operations Management*, Vol 19, No. 1, pp 5-22.
- Phillips, D.T. and Jeong, K.Y. (2001) 'Operational efficiency and effectiveness measurement', *International Journal of Operations & Production Management*, Vol 21, No. 11, pp 1404-1416.
- Pisano, G.P. (2017) 'Toward a prescriptive theory of dynamic capabilities: connecting strategic choice, learning, and competition', *Industrial and Corporate Change*, Vol 26, No. 5, pp 747-762.
- Porter, M. (1996) 'What is strategy', *Harvard Business Review*, Vol 74, No. 6, pp 61–78.
- (2004) *Competitive Advantage*, Free Press, New York.
- Porter, M. (2013) *On Competition*, Harvard Business School Publishing Corporation.
- Prajogo, D.I., Toy, J., Bhattacharya, A., Oke, A. and Cheng, T.C.E. (2018) 'The relationships between information management, process management and operational performance: Internal and external contexts', *International Journal of Production Economics*, Vol 199, No., pp 95-103.
- Rosenbusch, N., Brinckmann, J. and Bausch, A. (2011) 'Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs', *Journal of Business Venturing*, Vol 26, No. 4, pp 441-457.
- Russell, R.S. and Taylor, B.W. (2008) *Operations management - Quality and competitiveness in a global environment*, 5th edn, John Wiley & Sons, Inc, London.
- Salovey, P., & Grewal, D. (2005). The Science of Emotional Intelligence. *Current Directions in Psychological Science*, 14(6), 281–285. Retrieved from <http://www.jstor.org/stable/20183048>
- Santa, R., Hyland, P., & Ferrer, M. (2014). Technological innovation and operational effectiveness: their role in achieving performance improvements. *Production Planning & Control*, 25(12), 969–979. <https://doi.org/10.1080/09537287.2013.785613>
- Singh, R.K., Clements, E.J. and Sonwaney, V. (2018) 'Measurement of overall equipment effectiveness to improve operational efficiency', *International Journal of Process Management and Benchmarking*, Vol 8, No. 2, pp 246-261.
- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), 273–292. <https://doi.org/10.5465/AMR.2007.23466005>
- Slack, N., Stuart, C., Johnston, R. and Betts, A. (2006) *Operations and Process Management: Principles and practice for strategic impact*, Pearson, Harlow, England.
- Tabachnick, B. and Fidell, L. (2019) *Using Multivariate Statistics*, Pearson, Boston.
- Teece, D., Pisano, G. and Shuen, A. (1997) 'Dynamic capabilities and strategic management', *Strategic Management Journal*, Vol 8, No. 7, pp 509-533.

- Tidd, J. and Bessant, J. (2009) *Managing Innovation* John Wiley & Sons, Ltd, Hoboken, NJ.
- Tutorea, M. and Rotaru, M. (2012) 'Operational Effectiveness and Strategy', *Review of Management & Economic Engineering*, Vol 11, No. 3, pp 11-32.
- Wong, C.-S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, 13(3), 243–274. [https://doi.org/10.1016/S1048-9843\(02\)00099-1](https://doi.org/10.1016/S1048-9843(02)00099-1)
- Yang, J.C. (2011) 'What is Quality', *Quality Control Journal*, Vol 36, No. 8, pp 52–56.